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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.				
10/541,239	07/01/2005	Keitaro Yonezawa	YONE3016/JEK	4956				
23364	7590	12/28/2006	<table border="1"><tr><td>EXAMINER</td></tr><tr><td>WILSON, LEE D</td></tr></table>		EXAMINER	WILSON, LEE D		
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BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			ART UNIT	PAPER NUMBER				
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12/28/2006	PAPER							

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)
	10/541,239	YONEZAWA ET AL.
	Examiner LEE D. WILSON	Art Unit 3723

All participants (applicant, applicant's representative, PTO personnel):

(1) LEE D. WILSON. (3) _____.

(2) PATRICK BUECHNER. (4) _____.

Date of Interview: 19 December 2006.

Type: a) Telephonic b) Video Conference
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.

If Yes, brief description: _____.

Claim(s) discussed: ALL CLAIMS OF THE OFFICIAL RECORD.

Identification of prior art discussed: ALL ART OF RECORD.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant submitted the attached proposed amendment. The term adapted should be changed to configured to. This term positively recites the limitations and this term is approved by the Primary examiner. All changes noted on the attached proposed amendment along with the "configured to" language place the application in condition for allowance.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

LEE D. WILSON
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

What is claimed is:

1. (Currently Amended) An aligning drive mechanism, wherein comprising:
a guide hole (10) as a reference surface for aligning is formed in a housing (6),
an output member (13) is inserted into the guide hole (10) axially movably,
the output member (13) is provided with a plurality of guided portions (21, 22) axially at intervals,
an annular aligning space (31, 32), which narrows in either one axial direction, is formed between at least one of the guided portions (21, 22) and the guide hole (10),

Configured by holes
Examiner
of holes

a shuttle member (41, 42), which is diametrically expandable and contractible, is inserted into the aligning space (31, 32), the shuttle member (41, 42) is supported on either one of the guide hole (10) or the guided portion (21, 22) axially movably, and adapted to make a tapering engagement with the other of the guided portion or the guide hole (21, 22 or 10),

shuttle member urged by urging means
Examiner
of holes

the shuttle member (41, 42) is urged by an urging means (51, 52) in such a direction as to tighten the tapering engagement,

the output member (13) is adapted to be axially reciprocatable by a driving means (D).

2. (Original) The aligning drive mechanism as set forth in claim 1, wherein
the guide hole (10) is composed of a first guide hole (11) and a second guide hole (12), the diameter of which is larger than that of the first guide hole (11),

a plurality of the guided portions are composed of a first guided portion (21) corresponding to the first guide hole (11) and a second guided portion (22) corresponding to the second guide hole (12),

the annular aligning space (31) is formed between the first guide hole (11) and the first guided portion (21), the shuttle member (41) is inserted into the aligning space (31).

3. (Original) The aligning drive mechanism as set forth in claim 2, wherein

the annular aligning space (32) is formed between the second guide hole (12) and the second guided portion (22), and the shuttle member (42) is inserted into the aligning space (32).

4. (Original) The aligning drive mechanism as set forth in claim 1, wherein a straight surface (45, 46) of the shuttle member (41, 42) is movably supported on the guide hole (10), and a tapered surface (47, 48) of the shuttle member (41, 42) is adapted to make a tapering engagement with the guided portion (21, 22).

5. (Original) The aligning drive mechanism as set forth in claim 1, wherein a straight surface (45, 46) of the shuttle member (41, 42) is movably supported on the guided portion (21, 22), and a tapered surface (47, 48) of the shuttle member (41, 42) is adapted to make a tapering engagement with the guide hole (10).

6. (Original) The aligning drive mechanism as set forth in claim 1, wherein the output member (13) is adapted to be movable with load toward a base end, the annular aligning space (31, 32) is formed in such a manner as the tapering engagement to be tightened during the movement with load toward the base end.

7. (Original) The aligning drive mechanism as set forth in claim 1, wherein the output member (13) is adapted to be movable with load toward a base end, the annular aligning space (31, 32) is formed in such a manner as the tapering engagement to be loosened during the movement with load toward the base end.

8. (Original) The aligning drive mechanism as set forth in claim 1, wherein the output member (13) is adapted to be movable with load toward a leading end, the annular aligning space (31, 32) is formed in such a manner as the tapering engagement to be tightened during the movement with load toward the leading end.

9. (Original) The aligning drive mechanism as set forth in claim 1, wherein the output member (13) is adapted to be movable with load toward a leading end, the annular aligning space (31, 32) is formed in such a manner as the tapering engagement to be loosened during the movement with load toward the leading end.

10. (Currently Amended) A positioning apparatus having the aligning drive

mechanism set forth in claim 6 or 7, wherein and further comprising:

a reference block (1) as a fixed side is provided with the housing (6), an annular plug (9), which is to be inserted into a positioning hole (3) of a movable block (2), is projected from the housing (6) toward a leading end,

an output portion (16) of the output member (13) is inserted into the annular plug (9), a wedge surface (55) is provided on a periphery of the output portion (16) in such a manner that the wedge surface (55) gets closer to the axis toward the base end,

a plurality of pressing members (56) are supported on a peripheral wall (9a) of the annular plug (9) circumferentially at intervals and radially movably, the wedge surface (55) is adapted to make a wedge engagement with the pressing members (56), the pressing members (56) are adapted to be restorable radially inward by a returning means (58).

11. (Original) The positioning apparatus as set forth in claim 10, wherein the annular plug (9) having a ceiling wall (9b) is fixed to the housing (6).

12. (Original) The positioning apparatus as set forth in claim 10, wherein the annular plug (9) having a ceiling wall (9b) is supported on the housing (6) axially movably within a predetermined range, and the annular plug (9) is pressed toward the leading end by an advancing means (72).

13. (Currently Amended) A positioning apparatus having the aligning drive mechanism set forth in claim 6 or 7, wherein and further comprising:

a reference block (1) as a fixed side is provided with the housing (6), an annular collet (90), which is to be inserted into a positioning hole (3) of a movable block (2), is supported on the housing (6) axially movably within a predetermined range, the annular collet (90) is pressed toward a leading end by an advancing means (72),

an output portion (16) of the output member (13) is inserted into the annular collet (90), a wedge surface (55) is provided on a periphery of the output portion (16) in such a manner that the wedge surface (55) gets closer to the axis toward the base end,

a pressing portion (92), which engages with the positioning hole (3), is provided on a peripheral surface of the annular collet (90).

14. (Currently Amended) The positioning apparatus as set forth in claim 13, wherein

the annular collet (90) is integrally formed with at least one slit (91), and adapted to be contractible by either one of ~~its own~~ an inherent elastic restoring force or a returning means (94).

15. (Original) The positioning apparatus as set forth in claim 13, wherein

the annular collet (90) is composed of a plurality of divided members (96) arranged circumferentially, and adapted to be contractible by a returning means (94).

16. (Original) The positioning apparatus as set forth in claim 10, wherein

the wedge surface (55) is formed with a tapered outer peripheral surface.

17. (Original) The positioning apparatus as set forth in claim 10, wherein

a plurality of the wedge surfaces (55) are arranged circumferentially at intervals.

18. (Original) The positioning apparatus as set forth in claim 17, wherein

a plurality of inclined grooves (75) are provided on the output portion (16) of the output member (13) circumferentially at intervals, and the wedge surface (55) is formed on a bottom wall (75a) of the inclined groove (75).

19. (Original) The positioning apparatus as set forth in claim 18, wherein

the returning means (58) is formed with a fitting structure between a peripheral wall of the inclined groove (75) and the pressing member (56).

20. (Original) The positioning apparatus as set forth in claim 11, wherein

a supply port (62) for a cleaning fluid is provided in the housing (6), a discharge port (64) for the cleaning fluid is formed with a fitting gap between the peripheral wall (9a) of the annular plug (9) and the pressing member (56), and the discharge port (64) is adapted to communicate with the supply port (62).

21. (Original) The positioning apparatus as set forth in claim 12, wherein

a supply port (62) for a cleaning fluid is provided in the housing (6), a discharge port (64) for the cleaning fluid is formed with a fitting gap between the peripheral wall (9a) of the annular plug (9) and the pressing member (56), and the discharge port (64) is adapted to communicate with the supply port (62).

22. (Original) The positioning apparatus as set forth in claim 13, wherein

a supply port (62) for a cleaning fluid is provided in the housing (6), a discharge port (64) for the cleaning fluid is formed in the peripheral wall of the annular collet (90), and the discharge port (64) is adapted to communicate with the supply port (62).